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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,970	06/14/2001	Masahiro Nagatani	35.C15458	5065

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EXAMINER

DIVINE, LUCAS

ART UNIT PAPER NUMBER

2624

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/879,970

Applicant(s)

NAGATANI, MASAHIRO

Examiner

Lucas Divine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/17/05 has been entered.

Response to Amendment

2. Claims 1 – 5 and 7 – 9 are pending.
3. Applicant made clear the language of claims 1, 7, and 8 by adding the text ‘the gradation correction table’. This language is absent in claim 9 and thus the § 112(2) rejection of claim 9 is retained, but can be overcome by include above language to make the claim clear and definite.
4. Specification and claim objections as well as § 101 rejections withdrawn due to appropriate amendments and remarks.

Response to Arguments

5. Applicant's arguments filed 10/17/05 have been fully considered but they are not persuasive.

With respect to applicant's arguments on page 9 regarding the independent claims that Kageyama does not teach the new limitations.

In reply, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The combination does teach the new limitations in Inose because Inose further teaches that the head rank is initially stored in an EEPROM 401 on the print head and then, when processing for printing is needed, the data is thus read from the EEPROM and used in calibration processing for proper printing based on the head rank information (e.g. col. 9 line 66-col. 10 line 3, col. 18 lines 36-62, col. 23 line 54-col. 24 line 5, Fig. 4 ref. no. 401). Thus, when new heads are exchanged, new information would be added to the system (inside the new print head's EEPROM), and the combination must update its gradation correction table in order to perform correct gradation processing. It would have thus been obvious to use the new information about the new head in the combined system. The motivation for having correct and up to date printing processes is for the best print quality possible (see col. 3 lines 5-10 and 45-47).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1 – 5 and 7 – 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the

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claimed invention. The specification of the applicant includes the language that when a new head is exchanged, the calibration must be formed (paragraph 40). Further the applicant's specification discusses the 'head being exchanged' (p41), 'whenever a head having a different head ID is mounted into the printer' (p46), and other discussions in the specification of the print head being exchanged. The output device 205 includes print heads, and as claimed in claim 1, for example, the output unit has heads inside of it. Thus, the head cannot be considered the output unit. So, this leads Examiner to the conclusion that there is no support for the added amendment that 'the output unit is exchanged'. Thus, new matter has been introduced and the claims are rejected.

Examiner note: judging from the specification discussion, Examiner believes that the applicant meant the head is exchanged and the claims will be read in this manner accordingly that the head was exchanged, not the whole output unit.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9, the claim includes the '**acquiring from the original database a gradation correction table corresponding to a recording medium to which image output is executed and head rank information of the output unit**'. This is unclear and indefinite as to what is being claimed because this phrase can be read two ways:

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1) acquiring from the original database a gradation table corresponding to (a) a recording medium to which image output is executed and (b) head rank information of the output unit

or

2) acquiring from the original database (a) a gradation table corresponding to a recording medium to which image output is executed and (b) head rank information of the output unit.

Thus it is unclear what the applicant is claiming and clarification is required to make the claims definite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 – 5 and 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama (US 6333790) and Tanaka et al. (US 6151135) in view of Hayashi et al. (US 6819439) and Inose et al. (US 5969730).

Regarding claim 7, Kageyama teaches an image processing apparatus 200 that can print in color (col.13 line 60) that includes a print processing part 2140 for performing image correction and preparing print jobs for correct output (Fig. 2). The image processing apparatus further comprises calibration processing that forms a management file (printer system 200 continuously calibrates to keep management file 2121 updated, for example, when a page is printed, printer information db is updated with the new no. of sheets shown in Fig. 10 ref. no.

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10c) based on head discriminating information of a head used in said output unit (printer information db 2121 which is a management file that includes head discriminating information for toner or ink cartridge heads used in printer engine 2200 [Fig. 10 section 10c, wherein the use information for toner can be used to decide whether or not use this toner for output, further the system can include ink jet cartridges including ink jet heads that would have information stored in 2121 as well – col. 6 line 64, wherein the printer can be implemented with an ink jet method]).

While Kageyama teaches a color image processing apparatus with a print processing part 2140 for performing image correction and preparing jobs for correct output, Kageyama does not specifically teach that this unit includes specific color reproduction processing for the color printing or a calibration table with head rank or based on the recording medium.

Tanaka teaches an apparatus for color reproduction processing for color printing systems including:

holding means (memory 18) for holding an original database (color conversion table, which acts as a database as a collection of data stored for easy retrieval, is held in memory 18) in which a correction condition (condition of input color that needs to be corrected) corresponding to a reproducing property (color of reproduction) of an output unit (print processor 9 shown in Fig. 9 is the output unit for printer 5) is stored;

forming means (color conversion table former 17) for writing a correction condition formed by calibration processing (calibration done in calculating the modified area and amount for color processing in functional unit 16 and the color modification parameter normalizer 12 which form a correction condition and forward it to forming unit 17) to create a new database

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(col. 6 lines 60-65, wherein the table former forms a new color conversion table on the basis of the calibration processing discussed above and the new table is stored in holding means 18); and

correction processing means (data converter 21) for effecting correction processing regarding input data (correcting inputted RGB data to CMYK data for printing) by using the created new database (uses new table from table memory 18; col. 7 lines 7-9).

It would have been obvious to one of ordinary skill in the art that the color correction processing section of Tanaka can be implemented in a color printing system such as that of Kageyama. The motivation for doing so would have been to correctly convert RGB to CMYK data. The system of Tanaka would have been further advantageous because it allows for easy modification of color image data (col. 2 line 35) including the operator being able to select and use a color modification parameter 10 in color image processing, thus making the system obviously attractive to a color printing system such as that of Kageyama.

While the combination teaches performing color image correction/calibration for printing, the combination does not specifically teach using gradation tables corresponding to recording mediums or head rank information or creating a new database when the head is exchanged.

Hayashi teaches using image correction/calibration (see Figs.) gradation tables corresponding to recording mediums in color image processing devices (col. 3 lines 5-10; col. 11 lines 4-10; col. 12 lines 40-46; col. 13 line 41).

It would have been obvious to one of ordinary skill in the art that other types of image correction/calibration such as that of Hayashi could have been used in the system of Kageyama and Tanaka. The motivation for using gradation tables corresponding to recording mediums

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would have been to provide an image more faithful to the document (col. 3 lines 5-10 of Hayashi).

The combination above still does not specifically teach using head rank information for image correction or updating information when a head is exchanged.

Inose teaches using head rank information in color image processing devices for image correction (col. 9 line 66 – col. 10 line 5 teaches storing rank information in memory; col. 18 lines 54-63 teach that head rank is a parameter that quantifies the degree of density unevenness and by using this parameter in image/printing correction, density unevenness in an printed output can be prevented). Inose further teaches that the head rank is initially stored in an EEPROM 401 on the print head and then, when processing for printing is needed, the data is thus read from the EEPROM and used in calibration processing for proper printing based on the head rank information (e.g. col. 9 line 66-col. 10 line 3, col. 18 lines 36-62, col. 23 line 54-col. 24 line 5, Fig. 4 ref. no. 401). Thus, when new heads are exchanged, new information would be added to the system (inside the new print head's EEPROM), and the combination must update its gradation correction table in order to perform correct gradation processing.

It would have been obvious to one of ordinary skill in the art that other types of image correction/calibration such as that of Inose could have been used in the system of Kageyama and Tanaka. The motivation for using head rank information would have been to provide a more correct outputted image by preventing density unevenness (col. 18 line 62 of Inose). It further would have been obvious to have both head rank information and gradation table corresponding to a recording medium for image correcting in the system in order to have correction processing for both types of problems that can occur in printing, density unevenness and poor gradation

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output. It would have also been obvious to one of ordinary skill in the art to use the new information about the exchanged head in the combined system. The motivation for having correct and up to date printing processes is for the best print quality possible (see col. 3 lines 5-10 and 45-47).

Regarding claims 1 and 9, the structural elements of apparatus claim 7 perform all of the method steps of method claims 1 and 9. Therefore, claims 9 and 1 are rejected for the same reasons as stated in the rejection of apparatus claim 7 above.

Regarding claim 2, which depends from claim 1, the combination implicitly teaches that **said management file is held in a file different from a file for holding said new database**. The added color processing section of Tanaka would be placed in the print processing part 2140 of Kageyama, thus the memory 18 of Tanaka which holds the new database is in a different part of printer 200 (2410) from the management file 2121, which is in printer management part 2120. Since the memory locations for storing each are different, the files are therefore different.

Regarding claim 3, which depends from claim 1, Kageyama further teaches that **when said output unit uses a plurality of heads, the database file is managed on the basis of a combination of the head identification information of said heads** (in a ink jet printing system as can be implemented by Kageyama [col. 6 line 64] a plurality of heads would be used in the output unit, ones for C, M, Y, and K; if this was the case the management file shown in Fig. 10 would include information regarding each consumable item [10c] including each head and the management part 2120 that uses the management file would implicitly manage the complete printer, including the print processing part based on the information regarding each head).

Regarding claim 4, which depends from claim 1, Tanaka further teaches that **the number of databases created by the calibration is controlled on the basis of said management file, and, when the number of created databases becomes greater than a predetermined value, an oldest database in other already created databases is deleted** (it is implied that the color conversion memory acts like other standard memories, deleting older information when the capacity [predetermined value] is run out, thus older conversion tables are deleted when the memory becomes full to make room for new tables).

Regarding claim 5, which depends from claim 1, Kageyama further teaches that **upon uninstallation of a printer driver, all of the created database files and the management file are deleted** (printer driver software is the software in the printer controller 2100 that controls the completion of print processing for the printer; it is standard practice in the art that when software is uninstalled, relating information stored on a hard disk or memory is also deleted; since the database and management files are stored in memories relating to the printer processing software, if the software were uninstalled it would have been implied to delete the related management file and database file from memory).

Regarding claim 8, the image processing program claim 8 performs the steps of method claim 1. Therefore, claim 8 is rejected for the reasons stated in the rejection of method claim 1. The use of a processor and memory to hold and execute such a program are implied in the structure of printer controller 2100 of printer 200 in the printing system of Kageyama.

Conclusion

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd



KING Y. POON
PRIMARY EXAMINER